

USSN 10/520,259

6

**REMARKS**

The July 1, 2008, Office action rejected claims 1-3, 5, 6, 10, 12, 17 and 19. To expedite prosecution of this case, this Amendment and Response proposes cancelling claims 2 and 6; and amending claim 1, 17, and 19; all without prejudice or disclaimer. Support for the amendments may be found in the originally filed specification, claims and figures; no new matter has been introduced. After entry of this amendment, claims 1, 3, 5, 10, 12, 17 and 19 would remain pending in the application, including 2 independent claims. In view of the proposed amendments and remarks presented in this paper, entry of the amendments and reconsideration of the application is respectfully requested.

**Claim Rejections under 35 USC §102**

In the July 1, 2008, Office action, the Examiner rejected claims 1-3, 5, 6, 10, 12, 17, and 19 under 35 USC 102(b) as being anticipated by Pataki et al (US 5,396,926). For the following reasons, reconsideration and withdrawal of these rejections are respectfully requested.

Applicants have amended independent claims 1 and 17 to emphasize that:

(1) applicants' control valve arrangement seeks to control the movement of an injector valve needle relative to an injector valve seating wherein, in use, a portion of the injector valve needle is exposed to fuel pressure within the control chamber;

(2) that the control valve member engages a second seating such that the control chamber communicates with a the low pressure fuel drain and communication between the control chamber and the source of high pressure fuel is broken thereby causing the injector valve needle to lift away from the injector valve needle seating;

(3) that the restricted flow path is for restricting the rate of fuel flow from the source of high pressure fuel to the low pressure fuel drain when the control valve member is moved from the second position to the first position to urge the injector valve needle against the injector valve needle seating while reducing the loss of high pressure fuel to low pressure; and

(d) that the restricted flow path is defined by an outer surface of the control valve member and the bore in the valve housing.

USSN 10/520,259

7

Neither Pataki nor any other prior art reference discloses this combination of features, and thus, Pataki does not anticipate Applicants' invention, as described in independent claims 1 and 17.

More specifically, it should first be noted that what Pataki discloses is a generic three-way hydraulic flow control valve (see in general columns 1 to 4) that may provide possible application to fuel injection systems (see column 8). However, Pataki fails to disclose a control valve arrangement *for use in a fuel injector to control the movement of an injector valve needle relative to an injector valve seating wherein, in use, a portion of the injector valve needle is exposed to fuel pressure within the control chamber*, as recited in amended Claims 1 and 17. Moreover, Applicants respectfully submit that nowhere in Pataki is it disclosed that the second seating (44) is defined by a surface of a bore provided in a valve housing within which the control valve member is moveable. Contrariwise, Pataki teaches that the second seating (44) is defined by the 'floating pin' (16).

In still further contrast to Applicants' claimed invention, Pataki does not describe a restricted flow passage that is located between the first seat and the second seat, but instead teaches that the first and second seats are of differing diameters, thereby providing different flow restrictions relative to one another. (see, e.g., Pataki at column 13, line 62 to column 14, line 21). Thus, Pataki's restricted flow passage is defined *by the seats themselves - and not between the seats*, as explicitly required by amended Claims 1 and 17.

It is noted that, in one interpretation, the Examiner considers that the passage (42) within the Pataki valve member is a restricted orifice. Applicants respectfully submit, however, that Pataki fails to provide any suggestion that this passage provides any restrictive flow effect, particularly considering that the passage (42) is illustrated in the figures as the same size as the other flow passages (6, 8, 10), which also do not provide any restrictive effect on flow. As such, Pataki simply provides no teaching of a restriction as required by Applicants' amended claims 1 and 17.

Still further, Applicants also submit that Pataki fails to disclose that the restricted flow passage is defined by an outer surface of the control valve member and the bore in the valve housing, as is explicitly required by amended Claims 1 and 17.

Accordingly, Applicants respectfully submit that Claims 1 and 17, as amended, are allowable. Since claims 2 and 6 are now cancelled, their rejection is moot. Also, since

USSN 10/520,259

8

Claims 3, 5, 10, 12, and 19 variously depend from amended Claim 1, claims 3, 5, 10, 12, and 19 are also allowable. Reconsideration and withdrawal of these rejections are requested.

### **Claim Rejections under 35 USC §103**

In the July 1, 2008, Office action, the Examiner rejected claims 17 and 19 under 35 USC 103(a) as being unpatentable over Pataki in view of Harcombe (US 6,889,918). For the following reasons, reconsideration and withdrawal of these rejections are respectfully requested.

As discussed above, Applicants have amended claims 1 and 17 so as to overcome the Examiner's rejections under section 102 in regard to Pataki. Applicants also submit that the amendments also distinguish over any combination of Pataki and Harcombe. As discussed fully above in regard to the Pataki reference, neither Pataki nor Harcombe, alone and in combination, discloses, teaches or suggests all of the elements of Applicants' independent Claims 1 and 17, which both require that:

(1) the control valve arrangement control the movement of an injector valve needle relative to an injector valve seating wherein, in use, a portion of the injector valve needle is exposed to fuel pressure within the control chamber;

(2) that the control valve member engage a second seating such that the control chamber communicates with a the low pressure fuel drain and communication between the control chamber and the source of high pressure fuel is broken thereby causing the injector valve needle to lift away from the injector valve needle seating;

(3) that the restricted flow path be for restricting the rate of fuel flow from the source of high pressure fuel to the low pressure fuel drain when the control valve member is moved from the second position to the first position to urge the injector valve needle against the injector valve needle seating while reducing the loss of high pressure fuel to low pressure; and

(d) that the restricted flow path be defined by an outer surface of the control valve member and the bore in the valve housing.

USSN 10/520,259

9

Thus, Applicants respectfully submit that Claims 1 and 17 are allowable over Pataki in view of Harcombe. Since Claim 19 depends from claim 1, Claim 19 is also allowable. Reconsideration and withdrawal of these rejections are requested.

### **Double Patenting**

In the July 1, 2008, Office action, the Examiner rejected claims 1-3, 5, 6, 10, 12, 17, and 19 on grounds of the prohibition against obviousness type double patenting. The Examiner alleged that the claims are unpatentable over claims 1-10 of US Patent no. 6,889,918 in view of Pataki. In support of that rejection, the Examiner asserted that Pataki teaches that a restricted area is provided between first and second seating portions. For the following reasons, reconsideration and withdrawal of these rejections are respectfully requested.

As discussed above, Applicants have amended claims 1 and 17 so as to overcome the Examiner's rejections under section 102 in regard to Pataki and respectfully submit that, even in view of Harcombe, Pataki cannot obviate Applicants' amended claims. As discussed fully above, Pataki and Harcombe, both alone and in combination, fail to anticipate all of the elements of Applicants' independent Claims 1 and 17. Accordingly, Applicants respectfully submit that Claims 1 and 17 are allowable. Since claims 2 and 6 are now cancelled, their rejection is moot. Also, since Claims 3, 5, 10, 12, and 19 variously depend from amended Claim 1, claims 3, 5, 10, 12, and 19 are also allowable. Reconsideration and withdrawal of these rejections are requested.

USSN 10/520,259

10

**CONCLUSION**

In view of the foregoing, Applicants request the withdrawal of the rejections to the claims. Reconsideration of the application and allowance of all pending claims is earnestly solicited. Accordingly, the Examiner is requested to reconsider and allow claims 1, 3, 5, 10, 12, 17, and 19 and to pass the case to issue.

Should the Examiner wish to discuss any of the above in greater detail or deem that further amendments should be made to improve the form of the claims, the Examiner is invited to contact the undersigned at the Examiner's convenience.

Please charge any necessary fees, including any extension of time, or any other fee deficiencies to Delphi Technologies, Inc., Deposit Account No. 50-0831.

Respectfully submitted,

By: 

David P. Wood

Registration No: 45,932

Attorney for Applicants

Phone No. 248-813-1202

Fax No. 248-813-1222